CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY

Frequently Asked Questions

MARKET-BASED COMPLIANCE MECHANISMS FOR REDUCING GREENHOUSE GASES

What is a cap-and-trade system for greenhouse gas emissions?

A cap-and-trade system is a market-based compliance mechanism in which the government sets a cap on total emissions for certain sectors of the economy, but allows flexibility in how individual companies meet the cap. Emissions allowances, each allowing a specified amount of pollution emission, are distributed or sold to participating sources. The total number of allowances is equivalent to the overall cap (e.g., if a cap of 10,000 tons of emissions is set, 10,000 one-ton allowances will be issued). Covered sources must hold allowances equivalent to how much they emit – for every unit of pollution released, the source must surrender an allowance. A company can reduce its emissions to the level of its cap, reduce its emissions below its allowed level and sell its excess allowances to other entities, or buy allowances from other companies rather than reduce its own emissions directly.

Are cap-and-trade systems used successfully elsewhere?

Yes. One of the most successful environmental policies is the Sulfur Dioxide cap-and-trade system authorized by the federal Clean Air Act Amendments of 1990. The Acid Rain Trading program capped emissions of sulfur dioxide from power plants and has achieved drastic reductions in pollution at a fraction of the estimated costs of traditional regulation. Under this program, SO_2 emissions declined from 15.7 million tons in 1990 to 9.4 million tons in 2006 – a 40% reduction. Emissions have continuously declined over time, and cumulative reductions are well below what is required under the Acid Rain Trading Program.

Costs to comply were much lower than originally predicted. While estimated compliance costs at the time of enactment ranged from $3.5 – $7.5 billion per year, current estimated costs of the Acid Rain Trading Program by 2010 are just over $1 billion per year. According to experts, companies under the cap experienced a 43% - 55% cost savings compared to what total compliance costs would have been under a traditional regulatory policy. Officials suggest that the annual benefits of the acid rain SO_2 regulations, $78-$79 billion, far exceeded the costs, with most savings due to health benefits.

Why is a cap-and-trade system a good policy for reducing emissions?

A cap-and-trade system puts a price on carbon throughout the economy, and gives every company the incentive to reduce its greenhouse gas emissions to the maximum extent possible, which in some cases will be below their individual caps. Other companies with excess greenhouse gas emissions can buy credits from those that were able to over-comply.

By providing a price signal throughout the economy, a cap-and-trade system encourages innovative technologies and strategies to reduce greenhouse gas emissions. This incentive for innovation will create new low-carbon products and services.

Will a cap-and-trade program deliver real emissions reductions?

Yes. The program establishes a cap on the total emissions allowable (in any given year) from all facilities covered by the program. Monitoring and enforcement assures that emissions will not exceed the level set by the cap by ensuring that covered entities hold allowances equivalent to their emissions. At the end of each compliance period, covered emitters must surrender a number of allowances equivalent to their emissions, demonstrating reductions have been met. Trading of emissions allowances affects the level of emissions by particular entities within the system, but since trading does not increase the total number of allowances in circulation, it does not raise total allowable emissions.

Will a market-based compliance system encourage companies to pay to pollute?

No. Market-based compliance mechanisms do the opposite. They draw on the power of the marketplace, creating a financial incentive for reducing emissions. A market system puts a price on carbon, encouraging companies to reduce their output.

The introduction of a cap-and-trade program will either cause a facility to reduce emissions further, or it will have no impact on the facility's planned emissions. In no case will the cap-and-trade program's introduction cause an increase in overall emissions.

Further, the Global Warming Solutions Act requires that any strategies adopted to reduce greenhouse gases must not conflict with any environmental laws that protect air quality and water quality, prevent pollution, and clean up contaminated sites to support public health.

Who benefits from emissions trading?

Emissions trading is a tool used to lower cost and enable innovation. By creating a competitive market that rewards the greatest amount of emission reductions achieved at the lowest cost, the principal beneficiaries are consumers (in the form of reduced prices for goods and services), workers (in the forms of reduced pressure on wages and jobs), and businesses (in the form of increased demand for the most efficient greenhouse-gas reduction strategies).

Can introducing the cap-and-trade program cause an increase in emissions of local pollutants?

No. Changes in production methods that cause reductions in greenhouse gas emissions tend to reduce emissions of other, local pollutants as well, since in many combustion processes, both types of gases tend to be released together. In particular, lowering carbon dioxide emissions through reduced combustion of carbon-based fuels tends to reduce emissions of other, local pollutants such as NOx, SO_2 and mercury.

Does a cap-and-trade program reduce the need for technology-promoting policies?

No. A cap-and-trade program complements technology-promoting policies. A main purpose of the cap-and-trade program is to bring about low-cost emissions reductions within sectors covered by the program. The cap not only limits emissions, it creates a market price for emissions allowances. This price provides sustained incentives for developing new technologies involving lower emissions of greenhouse gases. If a facility attains a new technology that lowers emissions, then it will need to hold on fewer allowances. This benefits the facility since it either won't need to purchase as many allowances or it will be able to sell a greater number.

What are the different options for allocating emission allowances in a market-based compliance system?

The number of emission allowances that will flow into a market-based compliance system will be established after a considerable amount of work calculating emissions, determining baselines and developing a plan that incorporates the various reduction strategies: regulatory, voluntary and market-based.

Once the emission cap has been set, there are three options for distributing emission allowances: free allocation, auctioning, or some combination of the two. Under free allocation, covered entities may receive allowances based on their past emissions or a performance benchmark. Alternatively, California could auction emission allowances. These two options can be combined so that some allowances are freely allocated and the remaining are auctioned.

Does a cap-and-trade program eliminate incentives to reduce emissions prior to its introduction?

No, it should do the opposite. Emissions allowances can be allocated to facilities free or through an auction. An auction inherently rewards early action because firms who have reduced early have to buy fewer allowances. Free allocation can also be designed to reward early action by basing it on an environmental performance benchmark or providing explicit credit for early action.

How will a cap-and-trade system ensure verified, credible greenhouse gas reductions?

The bedrock of a cap-and-trade program is a rigorous system where sources report accurate emissions data. First, the regulated source has the responsibility to ensure the data are accurate and complete. Second, the regulating government authority has the responsibility to: assist the source in complying with the monitoring standard, verify the accuracy of the data, and provide the emissions data to the public in a timely and transparent way.

Programs and protocols already in place can greatly assist in the development and implementation of a reliable greenhouse gas emissions reduction monitoring, reporting and auditing system. These include some California Climate Action Registry (CCAR) methods and existing national methods for monitoring CO_2 from fossil fuel combustion. The integrity of the system can be maintained by the dedication of sufficient and properly trained regulatory staff to assist sources in monitoring, calculating, and reporting their emissions while at the same time auditing and enforcing the system requirements.

Why develop market-based compliance mechanisms on a parallel track to regulatory measures?

We need both to ensure a comprehensive approach and to achieve maximum reductions. In essence, market-based compliance mechanisms are a type of regulation, and they complement traditional “command and control” regulatory approaches. A market provides a price signal that pulls new technologies into the market and encourages emission reductions.

Why are some sectors more appropriate for traditional command and control reduction strategies and others for market-based compliance mechanisms?

Not all emissions sources are appropriate for inclusion if they pose significant administrative and/or monitoring challenges. Any emissions covered by the cap-and-trade program must be monitored, reported and verified to a high degree of accuracy. Inclusion of uncertain emission sources would create the potential for undetected non-compliance and thereby undermine the environmental integrity of the system.

Including sources such as agriculture or individual vehicle emissions, for which reporting, monitoring, or verification is difficult, will increase the costs of administration and undermine the reliability of transactions associated with the allocation, trading and surrender of emissions allowances.

What are offsets?

An offset is an emission reduction credit attributed to a reduction achieved by an entity in a sector that is not covered by a cap-and-trade system. The credit can then be sold to an entity covered under the system to offset some of its own emissions. By encouraging reductions in areas or sectors that are outside the program scope, offsets broaden the reach of a cap-and-trade system and help promote achievement of overall emissions reduction goals at the lowest cost.

In spite of the benefits an offset system can provide, there are challenges and risks associated with program implementation. It is important to ensure that offsets deliver an additional environmental benefit that is equal to emission reductions at a regulated facility. This requires accurate and rigorous baselines and strong monitoring and verification requirements.

How will a California market system, and/or Western regional system, be linked to the European Union Emissions Trading Scheme?

Linkage between trading systems can provide additional cost savings by providing a broader set of reduction opportunities. It also is a way to move toward a global greenhouse gas reduction system, which is essential for protecting the global climate. That is why the Market Advisory Committee encourages California to link with other mandatory cap-and-trade systems.

The most important criterion for linking trading schemes is mutual confidence that traded emissions reductions are real. Therefore states and countries considering linkage must ensure that their markets are designed to provide real and verifiable reductions. In general, linking with other systems will be easier if the elements in each system are similar. Decisions on linking will need to be negotiated individually with specific programs.